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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,171	09/10/2004	Malcolm Pressley	038665.55361US	8960

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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER	
KNOX, STEWART	
ART UNIT	**PAPER NUMBER**
3641	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/507,171	PRESSLEY, MALCOLM	
	Examiner	Art Unit	
	Stewart T. Knox	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 10-12* is/are pending in the application.

4a) Of the above claim(s) *11 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *11 and 12* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The replacement drawings were received on 6/02/2006. These drawings are accepted, and the previous objections have been withdrawn.

Specification

2. The replacement specification pages were received and are accepted. The previous objections have been withdrawn.

Claim Rejections - 35 USC § 112

3. The previous rejections under this section have been withdrawn in view of the amendments filed 6/02/2006.

Election/Restrictions

4. Newly submitted claims 11 and 12 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

5. Restriction is required under 35 U.S.C. 121 and 372. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

a. Group I, claim(s) 1-5 and 10, drawn to an explosives mixer with two reservoirs and a static mixer.

b. Group II, claim(s) 11, drawn to an apparatus including a hydraulic cylinder, ram assembly, and flow meter.

c. Group III, claim(s) 12, drawn to a method of using a mixer.

The inventions listed as Groups I, II, and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical feature in all groups is the hydraulic cylinder and ram assembly. This cannot be the a special technical feature under PCT Rule 13.2 because the element is obvious over the prior art, as discussed below, with respect to Patents issued to Donaghue (4,369,689), Hiorth (4,191,480), and Hill(5,137,366).

Since applicant has received an action on the merits for the originally presented invention, Group I has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 11 and 12 are withdrawn from consideration as being directed to a non-elected invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue (4,369,689) in view of Hiorth (4,191,480) in view of Hill (5,137,366). Donaghue discloses an apparatus for the mixing of explosive materials, comprising a reservoir of pre-mixed explosive material (element 1), a reservoir of hardener material (element 7, col. 4 lines 40-45 – isocyanate, a component of IPDI), a mixer (deflector plate 5), and a method of using the

apparatus. Donaghue does not disclose the two reservoirs having separate pipe means to connect to a static mixer, wherein the materials are combined at the inlet of the mixer, or a hydraulic cylinder and ram assembly. Hiorth discloses a static mixer for the mixing of explosive materials from two reservoirs (A, B) that mix substantially at the inlet of the static mixer in order to solve the problem where the intermixing of the materials results in a change of consistency that hampers the further treating process (col. 2 lines 6-12) and provide a continuous mixing process that does not require any moving parts other than the materials themselves (col. 1 lines 13-16), thus reducing the problems associated with a finite pot life of the mixture (i.e. mechanical breakdowns, length of time that the mixture is combined before being dispensed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the explosives mixer of Donaghue with the static mixer and pipe connections of Hiorth, since such a modification would provide the explosives mixer with a means of mixing explosives where the change in consistency (i.e. hardening or curing) or a breakdown in the machinery will be less likely to cause problems.

3. With respect to the hydraulic cylinder and ram assembly, Hill teaches a dispenser capable of loading separated (pre-mixed) materials using a hydraulic cylinder (element 70) and ram assembly (element 74) to control the elevation of a hopper (12), and thus control the fluid flow from the assembly (col. 7 lines 1-25, col. 3 lines 12-27) on a mobile platform. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mixing assembly of Donaghue to use a hydraulic cylinder and ram assembly as taught by Hill, since such a modification would provide the mixing assembly with a mobile platform for the pre-

mixed explosive material that uses an adjustable hopper to gravitationally control the flow of material rather than a motor that bears the gravitational weight of the material (as in Donaghue).

4. With respect to claim 4, Donaghue discloses that the mix of materials is controlled by an automated ordnance fill level controller, whereby the flow rates of the two streams are adjusted by controlling the speed of the motor (3) and the pump (8) to give the desired proportions of ingredients and, by implication, the desired volume (col. 4 lines 48-52).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue as applied to claim 1 above, and further in view of AECI Limited (UK Patent Application GB 2 205 386 A). Donaghue discloses the claimed invention except means for piping for filling ordnance with explosive material. AECI discloses an explosives mixer that utilizes a static mixer and channels the output into cartridge shells or other ordnance (pg. 1 lines 1-5). Alternately, the cylindrical tube of Donaghue is capable of being used to fill ordnance if it is placed over an empty shell. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the explosives mixer of Donaghue to be able to fill ordnance as well as bore holes, since such a modification would let the explosive composition be used in situations other than just the filling of bore holes.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donaghue as applied to the claims above, and further in view of Pyle (4,503,994). Donaghue discloses the claimed invention including an automated ordnance fill level controller by way of motor (3) and pump (8), but does not disclose the controller comprising at least one fiber optic sensor. Pyle discloses a fiber-optic liquid level sensing device that will shut off the flow of fluid when it reaches a certain height. Conventional means for performing this task may have been as simple

as a technician observing the level of explosive in the borehole or ordnance and adjusting the motor/pump accordingly. To one of ordinary skill in the art, though, this is inefficient and it would be optimal to replace this with a more precise, non-human measuring tool to fill the container to a predetermined level (col. 1 lines 15-16), and a fiber-optic shutoff system is disclosed. It would have been obvious to one of ordinary skill in the art to modify the explosives mixer of Donaghue to use a fiber-optic sensing device (as disclosed by Pyle) to determine when the bore hole or ordnance has been filled to the top, since such a modification would allow for the device to run more automatically and not require the constant input and monitoring of a human user.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being obvious over Donaghue in combination with the others as applied to claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the explosives mixing assembly of Donaghue to mix plastic bonded explosives (PBX), since it was known in the art that PBX is a common explosive that can be cured with a curing agent such as isocyanate or IPDI as provided by Donaghue, and such a modification would allow the assembly to be used with many different types of explosives.

Response to Arguments

8. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

9. Although the references previously cited do not disclose the combination of a hydraulic cylinder and ram assembly, the newly cited references do.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stewart T. Knox whose telephone number is (571) 272-8235. The examiner can normally be reached on Monday through Thursday, 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571) 272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

MICHELLE CLEMENT
PRIMARY EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

STK